



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/806,149

03/23/2004

Tadamoto Tamai

042188

1981

38834

7590

10/25/2006

WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP
1250 CONNECTICUT AVENUE, NW
SUITE 700
WASHINGTON, DC 20036

EXAMINER

KEENAN, JAMES W

ART UNIT

PAPER NUMBER

3652

DATE MAILED: 10/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/806,149	TAMAI, TADAMOTO	
	Examiner	Art Unit	
	James Keenan	3652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 3652

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claim 8 is rejected under 35 U.S.C. 102(b) as being anticipated by Mitchell et al (US 6,350,097, previously cited).

Mitchell shows a vacuum processing system comprising vacuum chamber 1, first load lock mechanism 3 (or 4), a holding mechanism (electrostatic chuck; not shown but described in col. 3, lines 27-57) in the vacuum chamber for moving an object between a process position and a load position, and an internal arm capable of exchanging an object at the load position with another object, wherein the internal arm includes first and second independently swinging arms 22, 29 supported at different positions in a swing axial direction 23, the first arm capable of swinging in a first direction to move an object at the load position to the first load lock mechanism, while the second arm is capable of swinging in a second opposite direction to move another object from the first load lock mechanism to the load position (col. 5, lines 17-49 and col. 6, lines 13-61).

Art Unit: 3652

3. Claims 1-4 and 7 are rejected under 35 U.S.C. 102(e) as being anticipated by Dickinson (US 6,852,644, previously cited).

Dickinson shows a vacuum processing system comprising vacuum chamber 64, first and second load locks 70, 76, external arm 90 capable of carrying the process object into at least the first load lock chamber (as currently written, the claim is considered to only require the arm to be capable of carrying the object into either one or the other of the load locks, but not necessarily both), and first and second robot arms 88, 92 each of which is capable of transferring the process object between a stock site 84 and the external arm, and between the stock site and the corresponding first or second load lock.

Applicant argues that Dickinson does not "teach" routes 4 and 5 shown in applicant's drawing on page 11 of the amendment; i.e., the first arm moving an object between the stock site and the first load lock (route 4), and the second arm moving an object between the external arm and the stock site (route 5). This is not persuasive. While these routes may not be explicitly disclosed, it must be noted that to anticipate a claim a reference need only show structure capable of performing, without modification, any functionally recited limitations. Since both arms are clearly "capable" of reaching the stock site, the external arm, and at least one load lock, they are therefore inherently "capable" of transferring wafers in the manner set forth. Applicant is not claiming a method in which particular steps must actually be performed.

Re claims 2 and 7, aligner 94 is also considered a buffer, absent any further structural limitations.

Re claims 3 and 4, Dickinson clearly discloses controls capable of operating the arms in the manner set forth. Again, note that functional recitations in an apparatus claim need not be explicitly disclosed by a reference in order to be anticipated but must merely be capable of being performed by that reference.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dickinson in view of JP 10-125764 (hereinafter JP), previously cited by applicant.

Dickinson shows only a single robot arm 82 in the vacuum chamber rather than a holding mechanism and an internal arm comprised of first and second arms.

As noted in the previous Office action, JP discloses a vacuum chamber 45 having holding mechanism 55 and an internal arm comprised of first and second arms 49, 51 disposed therein.

It would have been obvious for one of ordinary skill in the art at the time of the invention to have modified the apparatus of Dickinson by replacing the single robot arm in the vacuum chamber thereof with a holding mechanism and an internal arm comprised of first and second arms, as shown by JP, as this would increase efficiency and productivity.

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dickinson in view of JP, as applied to claim 5 above, and further in view of Mitchell et al.

Even as modified, Dickinson does not show the first and second internal arms to comprise independently swinging arms supported at different positions in a swing axial direction, with the first arm capable of swinging in a first direction to move an object at the load position to the first load lock mechanism, and the second arm capable of swinging in a second opposite direction to move another object from the first load lock mechanism to the load position, and the first and second arms further capable of swinging in corresponding opposite third and fourth directions to move an object between the load position and the second load lock mechanism.

As noted above with respect to claim 8, Mitchell shows these features.

It would have been obvious for one of ordinary skill in the art at the time of the invention to have further modified the apparatus of Dickinson by utilizing independently swinging arms movable in the manner set forth, as shown by Mitchell, to further enhance efficiency and productivity.

7. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dickinson in view of Mitchell et al.

Dickinson does not appear to show the external arm capable of carrying the object to both the first and second load lock mechanisms.

Mitchell shows an external robot 16 which is capable of moving an object from an external magazine to an orientation device then to either of the load locks (col. 5, line 50 to col. 6, line 25).

It would have been obvious for one of ordinary skill in the art at the time of the invention to have modified the apparatus of Dickinson such that the external arm could access both of the load locks, as shown by Mitchell, to enhance throughput.

8. Applicant's arguments filed 8/22/06 with respect to claims 1-5 and 7 have been fully considered but they are not persuasive. All argument have been addressed above.

9. Applicant's arguments with respect to claims 6, 8, and 9 have been considered but are moot in view of the new ground(s) of rejection.

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Keenan whose telephone number is 571-272-6925. The examiner can normally be reached on (schedule varies).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eileen Lillis can be reached on 571-272-6928. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

James Keenan
Primary Examiner
Art Unit 3652

